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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/582,834

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Rozenn Nicol

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EXAMINER

PAUL, DISLER

ART UNIT

PAPER NUMBER

2614

MAIL DATE

DELIVERY MODE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/582,834	<b>Applicant(s)</b> NICOL ET AL.	
	<b>Examiner</b> DISLER PAUL	<b>Art Unit</b> 2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 September 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

### ***Response to Arguments***

Applicant's arguments filed on June 26, 2008 in regard to Ashour et al. fail to disclose of the claim invention have been fully considered but they are not persuasive. Ashour et al. does disclose the claimed limitations " acoustic synthesis and spatialization method, in which a synthetic sound to be generated is characterized by the nature of a virtual acoustic source and its position relative to a chosen origin, wherein the method comprises a joint step of determining parameters including at least one gain, for defining, at the same time: a loudness characterizing the nature of the source, and the position of the source relative to a predetermined origin" as recited in the independent claims ((Ashour, fig.3-4; col.4

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line 35-65 & line 5-15/with synthesis sound may be placed wt filters  
in any spatial locations and with gains) ).

### ***Claim Rejections - 35 USC § 101***

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-12 are rejected under 35 U.S.C. 101 because, the "process" claims fail to tie with another statutory class (such as a Machine apparatus) or transform underlying subject matter such as (article or materials) to a different state or thing and thus, claims 1-12 are directed to non-statutory subject matter.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-3, 10-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Ashour et al. (US 6,459,797 B1).

Re claim 1, Ashour et al. disclose of the acoustic synthesis and spatialization method, in which a synthetic sound to be generated is characterized by the nature of a virtual acoustic source and its position relative to a chosen origin, wherein the method comprises a joint step of determining parameters including at least one gain, for defining, at the same time: a loudness characterizing the nature of the source, and the position of the source relative to a predetermined origin ((Ashour, fig.3-4; col.4 line 35-65)/gain with sound level and location as with user).

Re claim 3, the method as claimed in claim 1, in which the synthetic sound is intended to be reproduced in a holophonic, or binaural, or transaural context, on a plurality of reproduction channels, wherein, during said joint step, a delay between reproduction channels is also determined, to define at the same time: a triggering instant of the sound characterizing the nature of the source, and the position of the source relative to a predetermined origin ((Ashour, fig.4; col.3 line 25-30)).

RE claim 2, the method as claimed in claim 1, in which the spatialization of the virtual source is performed in an ambisonic context, further comprising a step for calculating gains associated

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components in a spherical harmonics base(fig.3-4; col.3 line 47- col.4 line 41/surround amplitude of each sound signal).

Re claim 13-15 have been analyzed and rejected with respect to claim 1.

Re claim 10, the method as claimed in claim 1 with having synthetic sound at predetermined origin, the synthetic sound wherein the method provides for an acoustic synthesis engine to generate spatialized sounds, relative to said predetermined origin (fig.2-3; col.2 line 50-65) for enabling the sound source to be moved around in real time at certain degree from the listener.

RE claim 11, the method as claimed in claim 10, in which the synthesis engine is implemented in a music editing context, wherein the method also provides for a man-machine interface to place the virtual source in a chosen position relative to the predetermined origin (fig.2-3; col.2 line 50-60).

Re claim 12, the method as claimed in claim 11, in which a plurality of virtual sources to be synthesized and spatialized are provided, wherein each source is assigned to a respective position (fig.3; col.3 line 35-45).

6. Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ashour et al. (US 6,459,797 B1) and further in view of Abel et al. (US 5,596,644).

6. The method as claimed in claim 3, wherein the spatialization of the virtual source is performed by a binaural synthesis analysis; however, Ashour et al. fail to disclose of the analysis synthesis based on a linear breakdown of transfer functions, these transfer functions being expressed by a linear combination of terms dependent on the frequency of the sound and weighted by terms dependent on the direction of the sound. But, Abel et al. disclose of the synthesizing system wherein analysis synthesis based on a linear breakdown of transfer functions, these transfer functions being expressed by a linear combination of terms dependent on the frequency of the sound and weighted by terms dependent on the direction of the sound (fig.1-3; col.11 line 28-35; col.12 line 50-67) for obtaining efficient accurate sound quality signals in arbitrary location. Thus, taking the combined teaching of Ashour et al. and Abel et al. it would have been obvious for one of the ordinary skill in the art to have modify Abel et al. with the synthesizing system wherein analysis synthesis based on a linear breakdown of transfer functions, these transfer functions being expressed by a linear combination of terms dependent on the frequency of the sound and weighted by terms dependent on the direction of the sound for obtaining efficient accurate sound quality signals in arbitrary location.

Re claim 7, the method as claimed in claim 6, wherein the direction is defined by at least one bias angle and, preferably, by a bias angle and an elevation angle (col.10 line 15-35).

Re claim 8, the method as claimed in claim 6, wherein the position of the virtual source is parameterized at least by: a number of filtering, dependent on the acoustic frequency, a number of weighting gains each associated with a filtering, and a delay for each "left" and "right" channel (Abel, fig.6).

Claims 4-5 are rejected under 35 U.S.C. 102(e) as being Unpatentable over Ashour et al. (US 6,459,797 B1) and Fay et al. (US 2002/0161462 A1).

Re claim 4, the method as claimed in claim 3, But, Ashour et al. fail to disclose of wherein the nature of the virtual source is parameterized at least by a temporal loudness variation, over a chosen duration and including a sound triggering instant. But, Fay et al. disclose of a synthesizer system wherein the nature of the virtual source is parameterized at least by a temporal loudness variation, over a chosen duration and including a sound triggering instant (par [0004;0046-0047;0075; 0085; 0140]/instant time of audio volume adjusting/variation with scene). Thus, taking the combined teaching of



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Ashour et al. and Fay et al. as a whole, it would have been obvious for one of the ordinary skill in the art to have modified Ashour et al. with the virtual source is parameterized at least by a temporal loudness variation, over a chosen duration and including a sound triggering instant for enabling the real audio representation of a video game.

Re claim 5, the method as claimed in claim 4 with the sound delay and phase and duration of the sound signal, However, the combined teaching of Ashour et al. and Fay et al. as a whole, fail to disclose of the specific wherein said variation comprises at least: an instrumental attack phase, a decay phase, a sustain phase, and a release phase. However, it is noted that the concept of having a signal wherein specifically signal variation comprises at least: an instrumental attack phase, a decay phase, a sustain phase, and a release phase is the designer's need, thus it would have been obvious for one of the ordinary skill in the art to have modify the combined teaching of Ashour et al. and Fay et al. as a whole, with the specific of using the variation comprises at least: an instrumental attack phase, a decay phase, a sustain phase, and a release phase for purpose of identifying the signal based on its unique characteristics.

7. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ashour et al. (US 6,459,797 B1) and Hashimoto et al. (US 7,386,139 B2).

Re claim 9, the method as claimed in claim 1, But, Ashour et al. fail to disclose of the wherein the nature of the virtual source is parameterized by at least one acoustic timbre, by associating the chosen relative loudnesses with harmonics of a frequency corresponding to a pitch of the sound. But, Hashimoto et al. disclose of a system wherein the similar concept of the nature of the virtual source is parameterized by at least one acoustic timbre, by associating the chosen relative loudnesses with harmonics of a frequency corresponding to a pitch of the sound (fig.46; col.30 line 43-56; col.21 line 9-15/speech or vocal of loudness/amplitude with frequency). Thus, taking the combined teaching of Ashour et al. and Hashimoto et al. as a whole, it would have been obvious for one of the ordinary skill in the art to have modified Ashour et al. with the similar concept of the nature of the virtual source is parameterized by at least one acoustic timbre, by associating the chosen relative loudnesses with harmonics of a frequency corresponding to a pitch of the sound for improving the sense of localization of sound by a user.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DISLER PAUL whose telephone number is (571)270-1187. The examiner can normally be reached on 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chin Vivian can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D. P./

Examiner, Art Unit 2614

/Vivian Chin/

Supervisory Patent Examiner, Art Unit 2614